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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,374	11/30/2007	Gianni Mochi	0341-009	2576

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EXAMINER	
PARK, HYUN D	
ART UNIT	PAPER NUMBER
2863	

NOTIFICATION DATE	DELIVERY MODE
08/06/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

tammy@ppglaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/540,374	MOCHI ET AL.	
	Examiner	Art Unit	
	HYUN PARK	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 June 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Drawings

1. The Fig. 3c is objected to because it is not clear if 02% should be 0.02%, 0.2% or 2%. Correction is required.

Claim Objections

2. Claims 1,4, 8 are objected to because of the following informalities: In Claim 1, 'the concentrations," and "the atmosphere" lacks antecedent basis.

3. In Claim 4, "the concentrations," "the data" and "the atmosphere," lacks antecedent basis.

4. In Claim 8, the word "programme" should be corrected to –program--.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In Claim 3, it is vague and indefinite as to what "interfacing this data with refinement parameters," means.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claim 1 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 1 is directed to the steps which do not fall within a statutory category of invention. The receipt of a plurality of

signals can be a data on paper, and processing and evaluation of this data can be done by hand.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claim 1, 4, 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Staphanos et al., US-PGPUB 2002/0134083 (hereinafter Staphanos).

Regarding Claim 1: Staphanos discloses a method for estimation and control of the concentrations of pollutant gases (Paragraph [0026], lines 6-14) at the discharge of a gas turbine (Paragraph [0051], line 9), comprising the following steps:

receipt of a plurality of signals (signal related to sample gas flow (Paragraph [0036], lines 15-16; signal related to oxygen concentration (Paragraph [0036], lines 19-20; signal related to carbon dioxide Paragraph [0036], lines 22-24; signal related to nitrogen oxide Paragraph [0036], lines 24-28; as well as numerous

inputs from the engine (Paragraph [0037], lines 4-5) corresponding to data relating to the operating state of the turbine (Paragraph [0026], lines 9-14);

processing of this data (Paragraph [0039], lines 9-19; Paragraph [0040], lines 1-4);

and evaluation of the emissions into the atmosphere from this turbine on the basis of the said data processed (Paragraph [0039], lines 16-19).

Regarding Claim 4: Staphanos discloses a system for estimation and control of the concentrations of pollutant gases at the discharge of a gas turbine, characterised in that it comprises:

an acquisition unit (3) (CPU **212**; Fig. 4) for the data relating to the operating state of the turbine, (Paragraph [0039], lines 9-19)

the said data being detected by a control panel (2) of the turbine (emission monitoring system **120**; Fig. 5); (Emission monitoring system receives data pertaining to emissions as well as engine data as described in the Paragraph [0045])

and a local processing unit (4) (display **226**; Fig. 4) which processes the said data in association with the said acquisition unit and makes the data available for

consultation (Paragraph [0038], lines10-12), in order to evaluate the emissions by the said turbine into the atmosphere, on the basis of the said data processed (Paragrpah [0039], lines 16-19).

Regarding Claims 6, 7: Staphanos is applied as above. Staphanos discloses a system, also comprising a remote processing unit (5) (monitor and control node **308**; Fig. 6) which is connected to the said local processing unit (or local controllers **306,** in the form of CPU 212; Fig. 6; Paragraph [0051], lines 21-24)) by means of a telecommunications line (Internet is a telecommunication line; Paragraph [0051], lines 1-4)

Regarding Claim 8: Staphanos is applied as above. Staphanos discloses a system, wherein the said remote unit consults this data by means of an Internet consultation programme (or suitable software as described in the Paragraph [0047], lines 1-8)

Regarding Claim 9: Staphanos is applied as above. Staphanos discloses a system, wherein the said local processing unit (or local controller in the form of CPU **212** (Fig. 4); Paragraph [0051], lines 21-24) comprises a calculator which carries out the processing of this data (Paragraph [0038], lines 9-13)

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Staphanos

Regarding Claim 10: Staphanos is applied as above. Staphanos discloses a system wherein the calculator carries out statistical calculation of the data stored in the historic data base for operation of the turbine. (Paragraph [0039], lines 13-15 states that other optimization technique can be used. One of

the well known optimization technique that is based on statistic is the *Statistical Optimization*. At the time of the invention, it would have been obvious to use the well known Statistical Optimization technique to perform the statistical calculation of the data stored in the historic data base for operation of the turbine.

14. Claims 2-3, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Staphanos in view of Mandel, US Pat No. 5,970,426 (hereinafter Mandel).

Regarding Claims 2, 5: Staphanos is applied as above. Staphanos does not disclose a method and system, additionally comprising the step of storage of the data processed in order to create a historic file of the emissions from the turbine.

Mandel discloses the step of storage of data sets (Fig. 4) so that the most up to date or current data concerning the operating state of the source of emissions is used (Col. 2; lines 56-61) in the emission monitoring.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include Mandel's method to store data processed in order to create a historic file of the emissions from the turbine in Stephanos emission monitoring method to provide most up to date or current data

concerning the operating state of the source of emissions is used in the emission monitoring as taught by Mandel.

Regarding Claim 3 (insofar as understood): Staphanos is applied as above. Staphanos discloses using the continuous emission monitoring (CEM) (Paragraph [0026], lines 6-7).

Staphanos however, does not disclose a method wherein the said step of processing this data comprises the step of interfacing this data with refinement parameters.

Mandel discloses two basic gas monitoring systems, Continuous Emission Monitoring (CEM) (Col. 3, lines 24-26) system and Predictive Emission Monitoring (PEM) (Col. 3, lines 39-44) system to control the emission of pollutants from the combustion sources. Generally, PEM system models the source of emissions that generates the emissions and predicts the quantity of emissions that are produced given the operating state of the process (Col. 1, lines 41-44). The PEM system is “trained” by monitoring multiple inputs (such as pressures and etc., and one or more output parameters such as CO and etc.,). After training, in normal operation, the PEM system monitors only the multiple inputs and calculates estimated output parameter values that closely match the actual pollutant levels (Col. 1, lines 44-51). In case where it becomes necessary to retrain the Predictive Emission Monitoring system, the stored output values

from the Continuous Emission Monitoring are retrieved so that the most up to date or current data concerning the operating state of the source of emission is used for retraining the Predictive Emission Monitoring (Col. 2, lines 52-61).

It is required by regulatory agency for the pollutant generating plants and factories to have an emission monitoring system. Not complying with this regulation is a heavy fine (Col. 2, lines 30-34). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the well known Predictive Emission Monitoring system as disclosed by Mandel along with the Continuous Emission Monitoring system in Staphanos to provide a dual emission monitoring system that provides backup against failure of one of the emission monitoring system, and thereby achieve a higher assurance that the output emissions will be monitored pursuant to regulatory requirement (Col. 2, lines 26-30) as taught by Mandel. Furthermore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to retrieve (or interface) and use the most up to date or current data in the retraining of the Predictive Emission Monitoring since it is the most accurate data (refinement parameters) indicative of the condition of the source of emissions (Col. 6, lines 34-42), and thus leads to the most accurate predictive emission monitoring.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure..

Zison et al., US-PGPUB, 2003/0120444 discloses a method which allows for an air quality management system to receive emissions data from a plurality of deployed sensors and derive statistics for individual components and devices of the facility being monitored.

Lang, US Pat No. 6,714,877 discloses using statistical optimization as one of the possible method in the operation of the fossil fueled power plants.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HYUN PARK whose telephone number is (571)270-7922. The examiner can normally be reached on 8-4 PM, M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571)272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. P./

07/24/2009

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